

Remarks/Arguments

Rejection of Claims 1-23 under 35 U.S.C. §102

The Examiner rejected Claims 1-23 under 35 U.S.C. §102(b) as being anticipated by U.S. Published Patent Application No. 2002/0099640 (Lange). Applicant respectfully traverses the rejection. Anticipation requires that all of the elements of the claim be taught within the four corners of a single reference.

The Examiner has cited the Abstract and the same paragraphs from Lange in the rejections for each of the claims of the instant application. In the individual claim rejections, the Examiner has listed all or portions of the limitations of the respective claim, but in all cases has failed to provide any specific reasoning or argument linking the citations from Lange with the respective claim limitations. Applicant submits that such lack of specificity points to the inapplicability of Lange with respect to the claims of the instant application.

Claim 1

Lange does not determine at least one intermediate value of a customized indexed call option

Claim 1 recites: "searching a data structure based on a search criterion to determine at least one intermediate value of said customized indexed call option;" The Examiner has cited paragraphs [0815], [0987], [0037], [0528], and [0687] in Lange as evidence that Lange teaches the above limitation. Applicant addresses each paragraph as follows:

Paragraph [0815] teaches computation of a trade position for a digital option trader: "process 414 determines whether the trader has sufficient equity capital in his account by comparing the computed CAR value and the trader's equity in accordance with the exchange's margin rules. In preferred embodiments, the exchange requires that all traders maintain a level of equity capital equal to some portion or multiple of the CAR value for their portfolios." (paragraph [0815], lines 8-14). The trade position taught by Lange is irrelevant to the above limitation.

Paragraphs [0987] teaches allowing traders to select payments of digital options according to desired states and to then enter a buy order for the option: "In preferred

embodiments of the systems and methods of the present invention for investing and trading in groups of DBAR contingent claims, traders may generate their own desired distributions of payouts, i.e., payouts can be customized very readily by varying amounts invested across the distribution of defined states.” (paragraph [0987], lines 1-7). Lange is teaching a process for generating and replicating arbitrary payout distributions, as evidenced by the header of paragraph [0986]. The payout distribution taught by Lange is irrelevant to the above limitation.

Paragraphs [0037], [0528], and [0687] teach digital options. For example, paragraph [0037] is a general teaching regarding contingent claims, specifically, digital call options. Digital call options are taught as having well-known and standard features, such as strike prices. Nothing in this paragraph addresses the above claim limitation.

Paragraph [0528] teaches the arbitrary distribution of payouts and mechanisms for executing such payouts. Nothing in this paragraph addresses the above claim limitation.

Paragraph [0687] introduces digital options. Nothing in this paragraph addresses the above claim limitation.

Lange does not teach interpolation

Claim 1 recites: “interpolating in said at least one intermediate value of said customized indexed call option based on a set of predetermined parameters of the customized indexed call option to find said value.” The Examiner has cited the Abstract and paragraphs [0815], [0987], [0037], [0528], and [0687] in Lange as evidence that Lange teaches the above limitation. Applicant has shown that Lange does not teach an intermediate value. Therefore, Lange cannot teach the above claim limitation. Further, Applicant addresses each paragraph as follows:

Paragraph [0815] teaches computation of a trade position for a digital option trader as shown in the arguments *supra*. The trade position taught by Lange is irrelevant to the above limitation.

Paragraphs [0987] teaches allowing traders to select payments of digital options according to desired states and to then enter a buy order for the option as shown in the arguments *supra*. Lange is teaching a process for generating and replicating arbitrary payout distributions,

as evidenced by the header of paragraph [0986]. The payout distribution taught by Lange is irrelevant to the above limitation.

Paragraphs [0037], [0528], and [0687] teach digital options as shown in the arguments *supra*. Nothing in these paragraphs addresses the above claim limitation.

In the Abstract, Lange teaches contingent claims and digital options, specifically a DBAR. The Abstract is silent regarding the above claim limitation:

“This invention provides methods and systems for trading and investing in groups of demand-based adjustable return ("DBAR") contingent claims, including digital options, and for establishing markets and exchanges for such claims. The advantages of the present invention, as applied to the establishment and operation of a DBAR digital options exchange, include the ability to offer investments whose profit and loss scenarios are comparable to those for digital options or other derivatives in traditional securities markets, without the need for options or derivatives sellers or order-matching of conventional markets. A DBAR digital options exchange of the present invention can also offer conditional investments, or limit orders, in which an investment in a state of a DBAR contingent claim (such as the price of an underlying asset or index) can be executed or withdrawn in response to the implied probability of the occurrence of that state.”

In contrast, the present invention, as recited in Claim 1, is “a computer-based method for determining a value of a customized indexed call option...” There is no overlap between the teachings of Lange and the limitations of Claim 1.

Lange does not teach all the elements of Claim 1. Therefore, Claim 1 is novel with respect to Claim 1. Claims 2 and 3, dependent from Claim 1, enjoy the same distinction from Lange. Applicant courteously requests that the rejection be removed.

Claim 4

Claim 4 recites: “a customized indexed call option with a specified term and specified notional amount n operatively arranged to allow an investor to choose notional amounts n_0 and n_1 at specified intervals within the term such that $n_0 \geq 0$, $n_1 \geq 0$, and $n_0 + n_1 \leq n$, while guaranteeing nonnegative total credited interest over the term, where interest credited on the notional amount n_0 is based upon an arbitrary but specified nonzero interest rate, and interest on

the notional amount n_l is credited based on changes in a specified index.” The Examiner has cited the Abstract and the same paragraphs from Lange used in the rejection of Claim 1 as evidence that Lange teaches the above limitation. Applicant addresses each paragraph as follows:

Paragraph [0815] teaches computation of a trade position for a digital option trader as shown in the arguments *supra*. The trade position taught by Lange is irrelevant to the above limitations.

Paragraphs [0987] teaches allowing traders to select payments of digital options according to desired states and to then enter a buy order for the option as shown in the arguments *supra*. Lange is teaching a process for generating and replicating arbitrary payout distributions, as evidenced by the header of paragraph [0986]. The payout distribution taught by Lange is irrelevant to the above limitations.

Paragraphs [0037], [0528], and [0687] teach digital options as shown in the arguments *supra*. Nothing in these paragraphs addresses the above claim limitation.

In the Abstract, Lange teaches contingent claims and digital options, specifically a DBAR. The Abstract is silent regarding the above claim limitations.

Assuming *arguendo* that any one of the above portions of Lange was relevant to the above claim limitations, these portions are silent regarding the specific limitations regarding notional amount n and notional amounts n_0 and n_l at specified intervals within the term such that $n_0 \geq 0$, $n_l \geq 0$, and $n_0 + n_l \leq n$. To anticipate a claim a reference must teach each and every element of the claim.

Lange does not teach all the elements of Claim 4. Therefore, Claim 4 is novel with respect to Lange. Applicant courteously requests that the rejection be removed.

Claim 5

Claim 5 recites: “a customized indexed call option with a specified term and specified notional amount n operatively arranged to allow an investor to choose notional amounts n_i at specified intervals within the term such that i is an integer such that $0 \leq i \leq k$, $n_i \geq 0$, and $\sum n_i \leq n$, while guaranteeing nonnegative total credited interest over the term, where interest credited on the notional amount n_0 is based upon an arbitrary but specified nonzero interest rate, and interest

on the notional amount n_i , $i \geq 1$, is credited based on changes in specified index i , where k , the number of specified indices, is an integer greater than or equal to one.” The Examiner has cited the Abstract and the same paragraphs from Lange used in the rejection of Claim 1 as evidence that Lange teaches the above limitation. Applicant addresses each paragraph as follows:

Paragraph [0815] teaches computation of a trade position for a digital option trader as shown in the arguments *supra*. The trade position taught by Lange is irrelevant to the above limitations.

Paragraphs [0987] teaches allowing traders to select payments of digital options according to desired states and to then enter a buy order for the option as shown in the arguments *supra*. Lange is teaching a process for generating and replicating arbitrary payout distributions, as evidenced by the header of paragraph [0986]. The payout distribution taught by Lange is irrelevant to the above limitations.

Paragraphs [0037], [0528], and [0687] teach digital options as shown in the arguments *supra*. Nothing in these paragraphs addresses the above claim limitations.

In the Abstract, Lange teaches contingent claims and digital options, specifically a DBAR. The Abstract is silent regarding the above claim limitations.

Assuming *arguendo* that any one of the above portions of Lange was relevant to the above claim limitation, these portions are silent regarding the specific limitations regarding parameters such as: “notional amount n operatively arranged to allow an investor to choose notional amounts n_i at specified intervals within the term such that i is an integer such that $0 \leq i \leq k$, $n_i \geq 0$, and $\sum n_i \leq n$,” To anticipate a claim a reference must teach each and every element of the claim.

Lange does not teach all the elements of Claim 5. Therefore, Claim 5 is novel with respect to Lange. Applicant courteously requests that the rejection be removed.

Claim 6-9

Claims 6-9 recite: “determining a value of a customized indexed call option; and determining a present value of the guaranteed return amount G .”

The Examiner has cited the Abstract and the same paragraphs from Lange used in the rejection of Claim 1 as evidence that Lange teaches the above limitation. Applicant addresses each paragraph as follows:

In the arguments for Claim 1, Applicant showed that Lange does not teach the first element of the above claims.

Regarding the second element, Applicant addresses each paragraph as follows:

Regarding the second element, Paragraph [0815] teaches computation of a trade position for a digital option trader as shown in the arguments *supra*. The trade position taught by Lange is irrelevant to the above limitations.

Paragraphs [0987] teaches allowing traders to select payments of digital options according to desired states and to then enter a buy order for the option as shown in the arguments *supra*. Lange is teaching a process for generating and replicating arbitrary payout distributions, as evidenced by the header of paragraph [0986]. The payout distribution taught by Lange is irrelevant to the above limitations.

Paragraphs [0037], [0528], and [0687] teach digital options as shown in the arguments *supra*. Nothing in these paragraphs addresses the above claim limitations.

In the Abstract, Lange teaches contingent claims and digital options, specifically a DBAR. The Abstract is silent regarding the above claim limitations.

Lange does not teach all the elements of Claims 6-9. Therefore, Claims 6-9 are novel with respect to Lange. Applicant courteously requests that the rejection be removed.

Claim 10

Claim 10 recites: "generating a first sample of index paths based on a first set of predetermined parameters; determining an optimal choice boundary maximizing an intermediate value of said customized indexed call option for such first sample of index paths; and determining said value of said customized indexed call option from said determined optimal choice boundary and a second sample of index paths and a second set of predetermined parameters."

The Examiner has cited the Abstract and the same paragraphs from Lange used in the rejection of Claim 1 as evidence that Lange teaches the above limitation. Applicant addresses each paragraph as follows:

Paragraph [0815] teaches computation of a trade position for a digital option trader as shown in the arguments *supra*. The trade position taught by Lange is irrelevant to the above limitations.

Paragraphs [0987] teaches allowing traders to select payments of digital options according to desired states and to then enter a buy order for the option as shown in the arguments *supra*. Lange is teaching a process for generating and replicating arbitrary payout distributions, as evidenced by the header of paragraph [0986]. The payout distribution taught by Lange is irrelevant to the above limitations.

Paragraphs [0037], [0528], and [0687] teach digital options as shown in the arguments *supra*. Nothing in these paragraphs addresses the above claim limitations.

In the Abstract, Lange teaches contingent claims and digital options, specifically a DBAR. The Abstract is silent regarding the above claim limitations.

Assuming *arguendo* that any one of the above portions of Lange was relevant to the above claim limitations, these portions are silent regarding the specific limitations such as index paths, a first set of predetermined parameters, an optimal choice boundary, an intermediate value, a second sample of index paths, and a second set of predetermined parameters. To anticipate a claim a reference must teach each and every element of the claim.

Lange does not teach all the elements of Claim 10. Therefore, Claim 10 is novel with respect to Lange. Claims 11-16, dependent from Claim 10, enjoy the same distinction with respect to Lange. Applicant courteously requests that the rejection be removed.

Claim 17

Claim 17 is an apparatus claim embodying the method steps recited in Claim 1. Applicant has shown that Claim 1 is novel with respect to Lange. Therefore, Claim 17 also is novel with respect to Lange. Claims 18 and 19, dependent from Claim 17, enjoy the same distinction with respect to Lange. Applicant courteously requests that the rejection be removed.

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Claim 20

Claim 20 is an apparatus claim embodying the method steps recited in Claim 10. Applicant has shown that Claim 10 is novel with respect to Lange. Therefore, Claim 20 also is novel with respect to Lange. Claims 21-23, dependent from Claim 20, enjoy the same distinction with respect to Lange. Applicant courteously requests that the rejection be removed.

Conclusion

Applicant respectfully submits that all pending claims are now in condition for allowance, which action is courteously requested.

Respectfully submitted,



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